

Version with markings to show changes made

In the claims

Claims 12-18 and 36-62 have been amended as follows:

--12. (Amended) A population of nanocrystallites comprising a plurality of nanocrystallites, each nanocrystallite including:

 a nanocrystalline core comprising MTe, wherein M is selected from the group consisting of Cd, Zn, Mg, and Hg; and

 an overcoating of a semiconductor material on a surface of the core[.], wherein the plurality of cores is monodisperse.

--13. (Amended) The population[nanocrystallite] according to claim 12, wherein each[the] nanocrystallite photoluminesces with a quantum efficiency of at least 20%.--

--14. (Amended) The population[nanocrystallite] according to claim 12, wherein each[the] nanocrystallite photoluminesces with a quantum efficiency of at least 40%.--

--15. (Amended) The population[nanocrystallite] according to claim 12, wherein each[the] nanocrystallite photoluminesces with a quantum efficiency of at least 60%.--

--16. (Amended) The population[nanocrystallite] according to claim 12, wherein each[the] nanocrystallite photoluminesces with a quantum efficiency of at least 70%.--

--17. (Amended) The population[nanocrystallite] according to claim 12, wherein the plurality of cores has a[the core is a member of a population having a] size distribution having[with] a standard deviation no greater than 15% of a mean diameter of the population.--

--18. (Amended) The population[nanocrystallite] according to claim 12, wherein each[the] core comprises CdTe.--

--36. (Amended) The population[nanocrystallite] of claim 12, wherein each[the] core photoluminesces at a wavelength in the range of 435 to 800 nm.--

--37. (Amended) The population[nanocrystallite] of claim 12 wherein each[the] overcoating comprises ZnS.--

--38. (Amended) The population[nanocrystallite] of claim 12 wherein each[the] overcoating comprises ZnSe.--

B

--39. (Amended) The population[nanocrystallite] of claim 12 wherein each[the] overcoating comprises CdSe.--

--40. (Amended) The population[nanocrystallite] according to claim 12, wherein the FWHM is 45 nm or less.--

--41. (Amended) The population[nanocrystallite] according to claim 40, wherein the FWHM is 20 nm or less.--

--42. (Amended) The population[nanocrystallite] according to claim 40, wherein the FWHM is 15 nm or less.--

--43. (Amended) The population[nanocrystallite] according to claim 12, wherein the plurality of cores has[the core is a member of a population having] a size distribution having[with] a standard deviation no greater than 10% of a mean diameter of the population.--

--44. (Amended) The population[nanocrystallite] according to claim 12, wherein the plurality of core has[the core is a member of a population having] a size distribution having[with] a standard deviation no greater than 5% of a mean diameter of the population.--

--45. (Amended) A population of nanocrystallites comprising a plurality of nanocrystallites, each nanocrystallite including:

 a nanocrystalline core comprising MTe, wherein M is selected from the group consisting of Cd, Zn, Mg, and Hg, and

 an overcoating of a semiconductor material on a surface of the core wherein the plurality of cores is monodisperse, and each core photoluminesces at a wavelength in the range of 435 to 800 nm.--

--46. (Amended) The population[nanocrystallite] of claim 45 wherein each[the] core comprises CdTe.--

--47. (Amended) The population[nanocrystallite] of claim 45, wherein the plurality of cores has[core is a member of a population having] a size distribution having[with] a standard deviation no greater than 10% of a mean diameter of the population.--

--48. (Amended) The population[nanocrystallite] of claim 45, wherein the plurality of cores has[core is a member of a population having] a size distribution having[with] a standard deviation no greater than 5% of a mean diameter of the population.--

B

--49 (Amended) The population[nanocrystallite] of claim 45, wherein each[the] overcoating comprises ZnS.--

--50. (Amended) The population[nanocrystallite] of claim 45, wherein each[the] overcoating comprises ZnSe.--

--51. (Amended) The population[nanocrystallite] of claim 45, wherein each[the] overcoating comprises CdSe.--

--52. (Amended) The population[nanocrystallite] of claim 45, wherein each[the] nanocrystallite photoluminesces with a quantum efficiency of at least 20%.--

--53. (Amended) The population[nanocrystallite] of claim 45, wherein each[the] nanocrystallite photoluminesces with a quantum efficiency of at least 40%.--

--54. (Amended) The population[nanocrystallite] of claim 45, wherein each[the] nanocrystallite photoluminesces with a quantum efficiency of at least 60%.--

--55. (Amended) A population of nanocrystallites comprising a plurality of nanocrystallites, each nanocrystallite including:

 a nanocrystalline core comprising MTe, wherein M is selected from the group consisting of Cd, Zn, Mg, and Hg, and

 an overcoating of a semiconductor material on a surface of the core, wherein the plurality of cores is monodisperse and each core photoluminesces with a full-width at half maximum (FWHM) of 70 nm or less.--

--56. (Amended) The population[nanocrystallite] according to claim 55, wherein the FWHM is 45 nm or less.--

--57. (Amended) The population[nanocrystallite] according to claim 55, wherein the FWHM is 20 nm or less.--

--58. (Amended) The population[nanocrystallite] according to claim 55, wherein the FWHM is 15 nm or less.--

--59. (Amended) The population[nanocrystallite] of claim 55, wherein the plurality of cores has[core is a member of a population having] a size distribution having[with] a standard deviation no greater than 10% of a mean diameter of the population.--



--60. (Amended) The population[**nanocrystallite**] of claim 55, wherein the plurality of cores has[**core is a member of a population having**] a size distribution having[**with**] a standard deviation no greater than 5% of a mean diameter of the population.--

--61. (Amended) The population[**nanocrystallite**] of claim 55, wherein each[**the**] nanocrystallite photoluminesces with a quantum efficiency of at least 20%.--

--62. (Amended) The population[**nanocrystallite**] of claim 55 wherein each[**the**] core comprises CdTe.--

B